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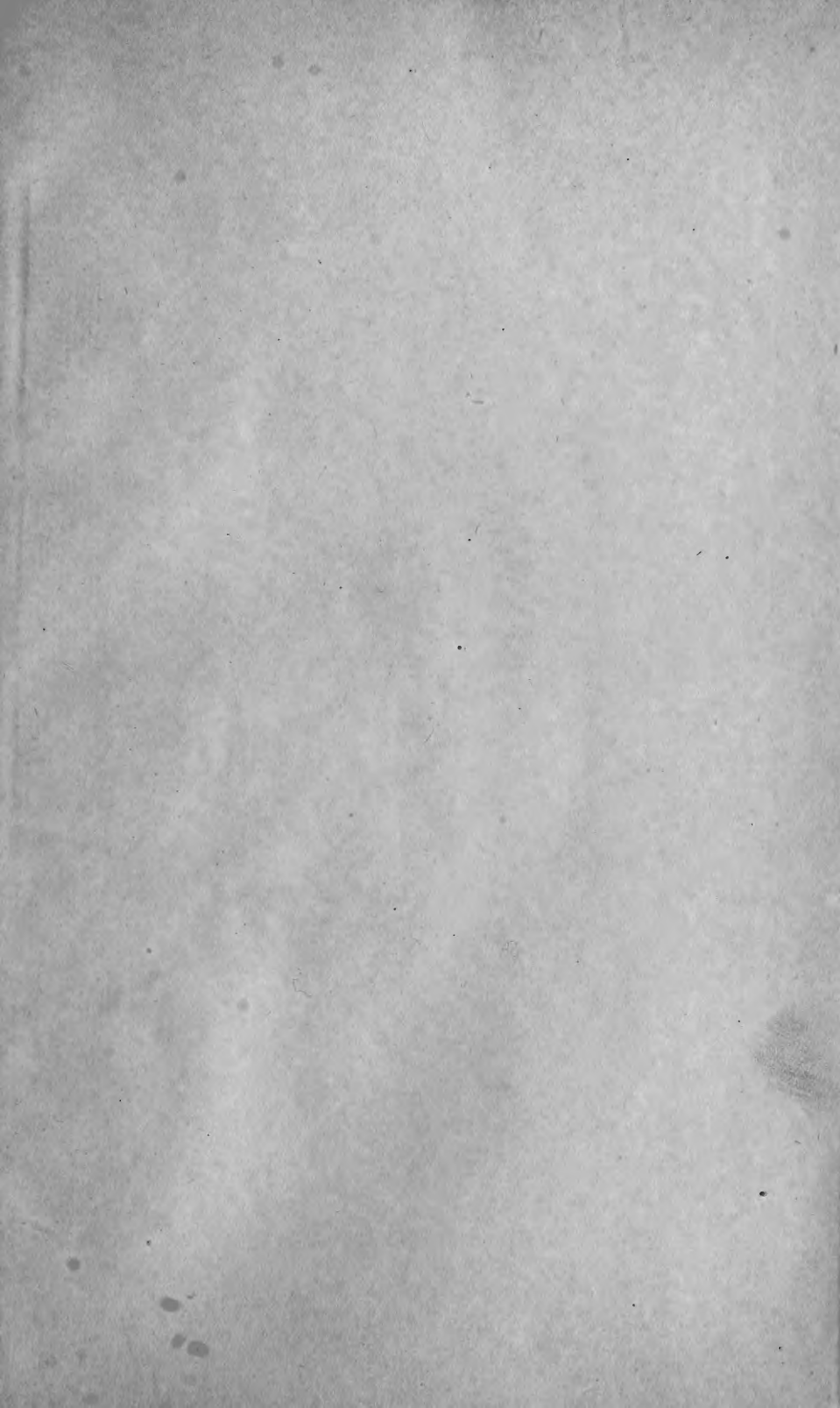
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OBSERVATIONS

ON

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THE SUGAR BEET,

AND ITS

CULTIVATION.

Ronaldson, James

Philadelphia:

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The motive for publishing the following paper, is to draw the attention of the agricultural community to the importance, and the utility of adding the cultivation of Beets to the other resources of the farmer. And in furtherance of this object, the editors of newspapers and periodicals, are invited to place in the columns of their papers, as much of this essay as they think may be useful to their readers.

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ON
THE CULTIVATION
OF
B E E T .

THE value and importance of the Sugar Beet as an addition to the agricultural productions of the farm, and an increase to the resources of the nation is but commencing to develop itself. Wherever it has been tried, as food for cattle, it has given satisfaction.

So late as the year 1836, the Sugar Beet was first introduced into the United States, by a society in Philadelphia, whose object was to ascertain its value as a source from which sugar could be advantageously procured ; and in pursuance of this object, that society sent an agent to Europe to observe and report the success that had attended the efforts of the French chemists and manufacturers ; this led to the introduction of the seed. It is not the purpose of this paper to enter upon the sugar business ; it is sufficient to observe that it has been so very successful in France, that it threatened to supersede the use of foreign sugar, and those merchants who were engaged in its importation, and interested in the sugar colonies, foreseeing the loss of what was their most important branch of business, applied to the French government for protection, and the consequence has been, that sugar made from beets in France has been subjected to an excise duty. It is possible, that the French government was apprehensive that the profits arising from making sugar from beets, might induce an undue proportion of land to be withdrawn from the production of grain, and employed in raising beets ; and likewise the fear of lessening the commercial marine, influenced the imposing of this excise duty, and it gave to the mercantile and colonial interests, the protection they petitioned for.

The society referred to, had no intention of becoming a manufacturing one ; the object being simply to ascertain and publish all the facts that could be procured relating to this new process of making sugar, import and disseminate some of the seeds, and the information that had been procured ; when these objects were accomplished, the members paid the expenses and closed the concern. Up to this time there has been no

manufactory for making Beet Sugar established in the United States.—Several trials have been made on an experimental scale;—the result of these, went to confirm the practicability of what was stated to have been done in Europe, to wit: the crystallizing the saccharine matter of the beet.

The discoveries in modern chemistry, having shown, that saccharine or the element of sweetness, is the basis of sugar, wine, vinegar, honey, &c. and as this element exists in beets and in grapes, it has led to the presumption, that wine may be made from beets, as well as from grapes; and in a letter from Paris, of date so late as October 16th, we find an intelligent gentleman, and a friend to the United States, writes to the following effect:

“By-the-bye, you must know that our public papers have been of late full of another discovery, and that is beet wine. What do you think of that my friend? Sugar being the principle, without which no vinous, fermented or distilled alcoholic liquor can be made, and the beet containing more saccharine matter than even the grape, why should the sweet beet not be used to make wine, if it can be divested of its empyreumatic oil and flavour, as it is in making sugar? The beet wine fever is now raging in France, as the *morus multicaulis* rages in the United States. Of its success in this grape-growing, wine-making country, I shall, as it develops, keep you advised.”

The cultivation of this plant being new and interesting to the farmers of the United States, it may be useful to lay before them a few observations on the subject, for which we are mainly indebted to the gentleman to whom we have already referred; and what is said must be received as general principles; the practice that will suit in Maine will not answer in Georgia, and yet the beet is a plant that will thrive throughout the whole extent of the United States; and as a food for cattle will prove for this country all that the turnip is for the moist and humid climate of Great Britain.

Cultivation of Beet.

The beet is a biennial plant, growing to seed the second year, its seed-stalk rises to the height of from three to five feet. It is from the root, and in the first year of its growth that the sugar is extracted. As yet the process of extracting sugar from beets has not been made sufficiently perfect to obtain the whole saccharine matter as in the case of the sugar cane, therefore the residue forms excellent food for cattle.

Choice of Ground.

Beet thrives in the soil suited to the potato, to wit: in all soils that are somewhat sandy and loamy—these soils mixed with vegetable mould and decayed matter are particularly suitable. From land essentially sandy, much cannot be expected, unless it be highly manured; under these circumstances we have seen a good crop growing in New Jersey. In the absence of manure the roots will be small, but where they grow fresh and healthy, it has been found that small plants yield a large proportion of sugar—but this by no means makes up for the want of mass, and therefore with this as with other crops—it is proper to use land naturally or artificially good, to insure large returns. Clay may be added to sandy soil, and sand mixed with clay ground, to correct their defects, but the process is expensive.

Where land is essentially stiff clay, it is not suitable for beets, because the seed germinates badly and the root finding it difficult to penetrate and imbed itself, becomes forked and rises too much above the surface, whereby it is too much exposed to the sun and atmosphere, which dispose it to become hard and reedy. One of the evils attending forked roots is, that stones, gravel, and earth get enveloped in the interstices, and thus blunt and injure the machine that is employed to reduce the roots to pulp, when the object is to make sugar. Clay soils are improved by deep and frequent ploughing and harrowing; the manures best suited to this kind of ground, are half rotted straw, fresh stable dung, leaves, &c. and sand can be employed to advantage, where it can be had with little labour, the quantity required to produce useful effects has to be very considerable. In France calcareous soils are not considered suited for growing beets. In America we may mistake what the French refer to, when on this occasion they use the term “calcareous;” possibly it may be by them applied to chalk soil, a kind of land we have none of, and not refer to the limestone land that abounds here, and is justly held in high estimation, as it answers well for all crops. The farmers of America must not be deterred from trying to cultivate beets on limestone land, because it is said of other countries, calcareous soils are not suited for growing that root; in this, as in many other cases, we must determine the fact by our own experience. Here, on limestone land, the beet may suffer from drought, but all crops grown upon it are exposed to the same effects. In France, the products on different soils vary very much, and are greatly influenced by better or worse management, the difference rating from fifty to two hundred.

Preparation of the Ground.

This will vary according to the nature of the soil, and here, as in all other departments of the farming business, much of the success depends on the skill and judgment of the farmer. In many cases three ploughings will be necessary, and one of these ploughings should be before winter, that the turned up soil may be mellowed by the frost, the last ploughing has to be in the spring immediately before planting the seed; two ploughings in this country will be found sufficient; in all cases it should be well harrowed, and rolling will be an improvement that amply repays the expense. Deep ploughing is generally useful, but the farmer has to consider the nature of the substrata. It would be improper to turn up much of the poor clay or gravel bottom, and where the substrata is an open sand, deep ploughing is not required. Manure in which the process of fermentation has not advanced far, will answer best for beets, nevertheless all kinds are useful; but the half rotten best divides the soil and suffers the roots freely to expand. In the state of Delaware, marl has been found an excellent manure for beets, and marl is found in many places in the low light soils on the Atlantic coast south of Sandy Hook. Some farmers in France allow the beet leaves that are cut off at harvest-time to remain on the land, and consider them a tolerably good manure, but this practice is not so good as having them carted into the barn yard to be eaten and trodden on by the cattle. It will be found that straw of any kind when properly laid into the furrows and covered with the mould, will give good crops; and this open species of manure is suited to clay soils and the beet root. The roller is especially necessary on clay soils; by it clods are well broken, which favours the coming up of the plants, and facilitates the future hoeings and horse-hoe weeding.

Of Sowing.

There are four ways of sowing beets, first in beds as in a nursery; second, broad cast as in sowing wheat; third, sowing or dropping by the hand in drills; and fourth, drilling by a machine.

By the first of these methods the whole of the seed is sown on a small portion of land compared with what it is intended to occupy; these plants will be fit to pull up and plant out where they are finally to remain, in a month or six weeks from the time of sowing; this planting is performed by means of a dibble with which holes are made in the ground, always a little deeper than the length of the plant that is to be put into them, and with this dibble the earth must be carefully pressed close to the root.—

This method is attended with several inconveniences ; it requires much manual labour, the roots are exposed to injury during the process of transplanting, and if the root is bent in the planting the beet will form badly, and in place of having the shape of a cone will be deformed and unthrifty with numerous roots filled with earth, which will be detrimental to the crop, whether used for feeding cattle or employed to make sugar. This mode of sowing should be thought of only where seed is scarce, the quantity to be sown not great, and labour easily procured.

Broad cast. This manner is the simplest, but requires a large quantity of seed, and will be expensive where that is dear, and seed in the European market, has on some occasions been five times dearer than on others. In this practice it will be found that six pounds of seed will be required, where two and a half or three would have been enough when planted in drills by the hand. The whole of the soil in the broad cast sowing is occupied, but it is difficult and expensive to hoe the crop, and keep it free of weeds, and the produce is never as great as by the following method :

Rows or drills. The little furrows into which the seeds are to be dropped are made by a harrow, having the teeth at the distance one from another that the rows of beets are intended to be from each other and the seed is dropped two or three into the drills at the distance of twelve to eighteen inches apart from each other. This work can be performed by young people ; in France it is most frequently done by women, as more dependence can be placed in them than in boys. After the planting is finished, the seeds are covered by having a light harrow with plenty of teeth in it drawn over the ground. In this way there is a great saving of seed and the plants are regularly spaced. Four women will plant an acre in a day. By using a drill drawn by a horse, the labour is very much abridged and the work will be expedited. This machine is very important to those who plant large fields ; in the large sugar-making districts it is used with great success, it is of various forms and merits, the plans have not yet been brought to this country. Some French farmers place the rows twenty-four inches apart, perhaps thirty will be found a more convenient distance for the horse-hoe, cultivator, or harrow. In fixing the distance that is to be between the rows, reference should be had to the kind of horse-hoe that is to be used in keeping the crops free from weeds. The distance in the row may be from twelve to eighteen inches. When the plants are far from each other the roots will grow to a large size, and the contrary will result from planting them close. By careful observation farmers have to learn the distance that will produce the largest quantity, and

best quality of roots on their respective soils. The seed should be planted at the depth of from one to two inches. Experience has proved, that at a greater depth especially on heavy soils, it is not sufficiently exposed to the action of the air, sun, and moisture ; without which it will not germinate well.

Time of Sowing.

This depends on the position of the place and nature of the soil; as a general rule, the earlier the better: Provided, the land is dry and in proper order, early sowing is particularly important when the object is to make sugar, because the roots arrive sooner at maturity and allow the process of crushing to commence early. In France it has been found that in September and October the greatest quantity of sugar can be extracted from the roots. In the United States, the nature of the fall season, is very suitable for making sugar. The season for working here will be longer than it is in France, this will favour to the manufacture here when it becomes a business. In Pennsylvania, beet sown so late as the first ten days of June came to perfection, but late sowing, exposes the young plants to be injured by the drought of that season, and the heat of the sun ; we have heard of an instance where by accident some beet seed had been dropped in the fall and remained in the ground, all winter and in spring vegetated well, and yielded a good crop. This accident suggests the trying how far it would answer to sow a part of the crop in fall, so as to have an early crop, and what the result would be of having from this early sowing, the ground well covered with leaves before the summer's hot sun comes on. If fall sowing shall be found to answer, it would be of advantage to the farmer, by allowing him to have a part of the spring work done in a season in which he is not much hurried. This fall sowing should not be performed until late in the season, when all probability of warm weather has passed away, so that there might not be heat to germinate the seed before the cold and frost set in.

Of Hoeing.

Few plants suffer more than the beet from neglect, and the baneful influence of weeds in the first stages of its vegetation. The ground therefore has to be kept free of weeds, and it should be kept mellow during the first stages of the plants development. Beets require one or two hand thinnings, and as many hand hoeings. The first of the hoeings should be about when four or five of the leaves have put out, the second

in from three to five weeks afterwards. Here it is proper to remark, that each of the burs that are planted is a cluster containing sometimes as many as four seeds; this is to be perceived by breaking one of these burs, in it will be found several small grains of white flour, and each gives out a separate plant. Mice are fond of this flour and will destroy the seed if they can get at it, all the plants save one must be pulled up at the time of hoeing, if not properly thinned there will be a cluster of leaves but very small roots, where there are blanks, they should be filled up with those pulled up from where there are too many. After the rows have been carefully freed from weeds and properly thinned, the horse-hoe, cultivator or drill harrow can be advantageously run between the rows. The horse-hoe, &c. has to be some inches narrower than the distance from row to row, and after each horse-hoeing, a person should go along the rows with a hand hoe, and remove the earth from such plants as may have had it thrown on them by the harrow, &c. If any of the beets should show a disposition to shoot out into the seed stalk, this must be stopped by cutting off these stalks, because this growth would be at the expense of the root. Some persons pull off a portion of the leaves to feed their cattle, the leaves also make excellent greens for the table, it is probable that taking these leaves is some detriment to the roots.

Harvesting.

The season for taking up the roots will vary with circumstances and localities, early and late sowing, &c. &c. In France beets ripen and the making of sugar commences about the end of September or beginning of October, and the evidences of the plant being ripe are the falling down of the leaves, and those of a bright green, turning yellow and brown.—The influence of drought may bring on these appearances; the observing farmer will understand when this change is caused by heat, or want of moisture, indeed he has to attend to the weather, and the appearance of the approach of winter that he may take advantage of all the growing season, and at the same time not be too late in harvesting, and thereby expose the crop to be injured by frost. The roots should be pulled by hand or assisted by the spade when necessary, and the person that pulls them must shake the earth off them, and be careful not to strike one against another or in any way bruise them; bruising has the same effect on beets that it has on apples, in both cases it disposes them to rot. The person who pulls the beets should cut off the tops with a knife, being careful not to cut the beet. The leaves being cut off lessens the dis-

position of the root to vegetate, and it prepares them to be housed.—The beets should lay on the ground until they are dry before they are housed.

Preservation.

The roots must not be left long on the ground exposed to air, heat and moisture; much heat or cold are both found detrimental, as a heat of fifty-six to sixty degrees Fahrenheit in damp weather, will produce a fermentation sufficient to reduce the quantity of saccharine matter, and on the other hand, beets freeze very readily, so that only a few degrees below thirty-two will dispose them to rot.

The best aired cellar is not better for securing the beet than a judiciously made pit, wherein the beets are stored and covered with the earth that was dug from the pit. The dimension of pits may be varied to suit circumstances. It is most prudent not to make them large, because if from any cause a part of the contents of a pit begins to spoil, the disease is contagious and will spread through the whole mass. They may be made from four to five feet wide and eight, ten, or twelve long. One to two feet is deep enough, this hole is to be filled with beets, and piled up until they form a ridge, and the whole is to be covered with the earth dug from the pit, a drain should be cut round the heap, to carry off all water, it being of importance, that the beet be kept dry, and for this reason, ground naturally dry should be selected for the pits—perhaps in our severe climate it may be necessary to spread a little straw or corn stalks on the outside of the heaps, to keep out the frost; if put inside it might rot and spoil the beets, and it may be useful to open the pits from time to time to air and keep them fresh, and if any are observed to spoil, they should be carefully taken out. The preserving of beets is the most difficult of all the branches connected with them.

Growing of the Seed.

As the beet is a biennial plant it is only in the second year that it produces seed. The proper time for choosing the roots from which the seed is to be produced next year is when taking up the crop; these should be healthy, somewhat above the medium size in length and thickness; well formed and no ways forked, and of a fine light colour; (if for sugar perfectly white,) they should be kept through winter in sand or dry earth, and placed in a temperate barn or cellar equally guarded from the influ-

ence of heat and cold. In the neighbourhood of Philadelphia, they should be planted out in March or so soon as the land is in good order, and at the distance of two or three feet apart, this will be sufficient space for yielding the roots and leaves the requisite nourishment; the stalks will rise from three to five feet, and the branches being liable to split off, and break down, have to be supported by sticks or frames. When the seed is ripe, which will generally be in September, the stalks are to be cut off, tied into bundles, and hung up, or laid over fences to dry—and then the seed is beaten off by switching the sheaves over a board set on its edge, or it may be threshed. In France the seed is removed from the stems by hand, taking care to leave the small seeds that grow towards the outer end of the branches, as these seeds do not ripen well in that climate, which is moiſter than that of the United States.—The next process is to expose the seed to the sun, and then it is put into sacks and kept in a dry place, where mice and vermin shall not have access to it. The average yield of plants in France is from four, to six ounces of good seed. The beet in this country has been found to produce very good seed—it will therefore be prudent and a saving for farmers to raise enough for their own wants. And for some time, in all probability, it will be a profitable branch of business to raise some for sale.

General Remarks.

The important uses to which the beet is now applied, having attracted great attention to its habits, it is found under some circumstances to degenerate; the seed of the white plant producing yellow and red roots; this tendency may be checked by changing the seed from clay to sandy, and from sandy to clay soils. Experience may show that changes from the North to the South, and from the South to the North, would be attended with good consequences. The seed, if carefully preserved from moisture, insects, and vermin, will keep for several years, but after four years, it will not be prudent to sow it. When the object is to make sugar, care should be taken to have seed that will produce white roots, and early sowing will afford the opportunity of commencing the crushing and boiling at an early period. French writers on the subject inform us, that the early bruising produce the largest proportion of sugar. Some of their remarks on soil, it is difficult for Americans to understand, as in this country we have no chalk soil. The routine of crops where the beet is cultivated is very varied. Some French

farmers plant potatoes the first year, beets the second, and clover the third—and repeat. Now we do not understand how clover can be made to follow beets, or how it could grow when sown amongst them, as it would be destroyed by the process of working the crop—but they may have an annual clover we are not acquainted with. Others sow beets two years in succession, oats the third, clover the fourth, and repeat. And one man as mentioned, who has sown beets with success, for fifteen years in succession on the same land; his practice was to change the nature and kind of manure, and dressing put on the land.

In this country, as yet, there is nothing of strict system in the rotation of crops. The important articles, Indian corn, grown all over the United States, and tobacco and cotton, in particular districts, renders it necessary for us, to adopt a system suited to our circumstances and resources; our farmers have to exercise their own judgment, and select practices suited to their particular positions.

In most instances, the beet crop will not be got off the land early enough to be followed by wheat, and late sown wheat in general is not a safe crop. Wheat is found to yield more grain with a less show of straw in those cases where manure is not directly applied to it, but to a previous crop. Where manure is immediately applied to wheat, it is more liable to mildew than where it has been used to a preceding crop.

When the beet is employed in feeding cattle, one of the effects will be, to produce more and *richer* manure, and this will place in the farmer's power the entire command of his farm,—he can do with it whatever he pleases. Every encouragement is held out for the culture of beet. It being a green crop, draws much of its nourishment from the atmosphere, and in place of exhausting the land, leaves it in fine order, for any crop the farmer may choose to put on it. Beets in no way interfere with the cultivation of wheat, clover, barley, Indian corn, potatoes, turnips, &c. With the aid of a few beet, the profitable effects of that most useful grain, Indian corn, will be greatly increased in feeding cattle. Calves fed with beets or roots in their first winter, will generally be as good animals at the end of two years, as those that have been fed the first winter on dry food and corn, will be at the end of three years.

The raising a portion of beet is interesting to every farmer, inasmuch as the seed required to commence will put him to little expense, and afterwards he can supply himself; the business of his farm is the same as if he had planted an extra acre of potatoes, and the effects on milk, butter, cheese, fattening pigs, &c. is immediate. But on this crop, as in most new things, people will entertain different opinions; the merits

of the question may be safely left to the decision of **SELF INTEREST**, in a country where the people are fond of beef, butter, good meat and profit. The object of this paper is simply to furnish some information on the subject.

Although the intention of this paper is to call the attention of farmers, to the raising of Beets, with a view to the improvement of their stock of cattle, their land, and their circumstances, it will not be out of place to draw their attention to another branch of the business of agriculture, that proves profitable to the husbandmen of other countries, and which is here more and more assuming an inviting appearance.

The best spermaceti oil, burnt in lamps, is now selling in Philadelphia at one dollar and fifty cents a gallon. The practice of using oil for lighting our houses, and its price, have for years been on the advance, and in consequence of the great number of whaling ships, the number of fish must be decreasing, and those that escape the fishermen, become more wary and shy. If oil, in consequence of these *growing* causes, is so high in the seaboard towns, it will be higher in those of the interior, in proportion to the expense and hazard incident to transportation, therefore the farmer in these districts, has so much more inducement to raise the plants from which oil is made.

Most earnestly we recommend to farmers and planters, the growing of Rape, which is a species of cabbage, or rather of greens, as it does not head. The French call it Colza—and it is from the seed of this plant, that great quantities of oil is made by the French and the English; and the former make from poppy seed, abundance of table oil, so good in quality that it answers all the purposes of olive oil, and is much cheaper.

Those who are acquainted with the cultivation of these plants, (the Rape and Poppy,) harvesting the seed, and making the oil, could confer great service on the country by publishing the processes, or such of them as they are acquainted with; and there is every reason to presume, the Publishers of the “Farmer’s Cabinet” published in Philadelphia, the “Cultivator” at Albany, the “American Farmer” at Baltimore, and the “Farmer’s Register” at Petersburg, &c. &c., would give the communications a place in the columns of their very useful periodicals.

It is with farmers, as with manufacturers, merchants, and tradesmen of all descriptions; all are exposed to the fluctuations constantly operating on trade and commerce, influencing prices, supply, and consumption; and every one should observe the improvements that are made in the arts and sciences that relate to his particular business. For it is not

to be disputed, that all other things being equal, those who are best informed, with the same extent of industry, are to be most successful : And while the manufacturer is diversifying his productions, and lessening the quantity of labour required to make them, the merchant is performing voyages in twenty-eight days, that formerly employed three months, and letters pass between New York and Liverpool with nearly the regularity of a well conducted mail coach, and go with greater speed. The farmer must exert himself also, or be laid under contribution to the more active ; while he is neglecting to study the nature and qualities of soils, manures, the kind of grain, plants, and cattle best suited to his circumstances, the most effective manner of employing labour—and economizing time and every thing about him. The manufacturer is calling to his aid a stream of water, or steam engine, and with one or other of these agents, and the assistance of a few women or children, is converting bales of low priced raw cotton into costly cloths ; or by employing a few sturdy men, iron ore into cart wheel tires, ploughs, needles, &c. &c., a few pounds of which will pay for the bale of cotton, barrel of wheat, or barrel of pork—nay, there are cases in which this will be done by a few ounces.

It is somewhat remarkable that there are few distinguished and celebrated farmers or planters, in comparison with tradesmen, engineers, and manufacturers. The truth is, the profession of husbandry, although it can be carried on in some way or other by most men, is one of the most intricate and diversified ; influenced by causes, the laws of which are hardly known—for example of vegetation, the manner in which manure acts, the operation of lime, gypsum, &c. and the nature of soils, the grains and plants most suitable for soils and circumstances of the farmer, the seasons, the weather, the habits of plants, the nature, effects, and habits of insects, the grains, grasses, fruit trees, the adroit skill to secure the proper moment for sowing, harvesting, ploughing, and the innumerable operations and occurrences of a farm, influenced as they are by the vicissitudes of weather, and the talents to understand all that relates to these constantly operating causes, with the power to make the most of them, are more rarely concentrated in one person, than the knowledge and capacity to be eminent in the other professions—this, and the diffused position of farmers, form some of the causes to which may be ascribed the circumstance of there being few pre-eminent farmers.

But it is evident that this all-important business has now entered upon a new epoch, and which is manifesting itself in more attention to the selecting of good seed, new articles of culture, whereby the rigours of

winter are equalized with the food of summer—better breeds of cattle, and above all, by the number and excellence of the treatises and periodicals that are published in this country, and Great Britain, and to which every farmer should attend, and be especially careful to see that his sons read and reflect on the subjects they treat on.

J. R.

Philadelphia, January 1, 1840.

NOTE.

When the preceding observations on the Beet were put to press, it was presumed that only a few copies would supply the demand. It has turned out otherwise, and some more are wanted. This has afforded the opportunity of adding the following facts that have but lately come to our knowledge.

On the authority of a gentleman interested in the growing of sugar-cane in Louisiana, we state, that a crop of Sugar Beets is found to be superior to all other crops as a refresher and renovater of the land after the fourth crop, that is the fourth year of sugar-cane, as in Louisiana one planting lasts for that time, viz. four years. If this is found to answer in general practice, it will give to the planting of the Beet a greater importance than its most sanguine friends calculated on: and if it proves suitable for making sugar from in the cane latitude, the making of sugar will assume an entirely new character; and in Louisiana, the boiling season will commence with the beet, and close with the cane, whereby the same capital that is invested in the works, machinery, &c. &c. connected with the boiling house, will prove a great saving on this portion of the planter's capital.

In some countries rape seed is sown and cultivated for fall pasture, on which sheep and all the horned cattle, except the milk cows, are fed. This plant, like all of the cabbage class, gives to milk and butter a disagreeable taste, and this is the reason why the milk cows are not fed with the rape seed plant. In consequence of the mild and fine weather during the fall season in the United States, it is reasonable to suppose that this practice would answer very well here.

March 25, 1840.

SUGAR BEET SEED
FOR SALE,
At No. 200 South Ninth Street,
PHILADELPHIA.

In the feeding Cattle, Milk Cows, and stock of all kinds, every Farmer who has tried, the Sugar Beet, knows that it is equal to any, and superior to most of the feeds that are used for keeping and fattening cattle. Its culture is attended with little expense, and in our dry climate is more certain of making a good crop than any other of the roots grown for the purpose of feeding stock.

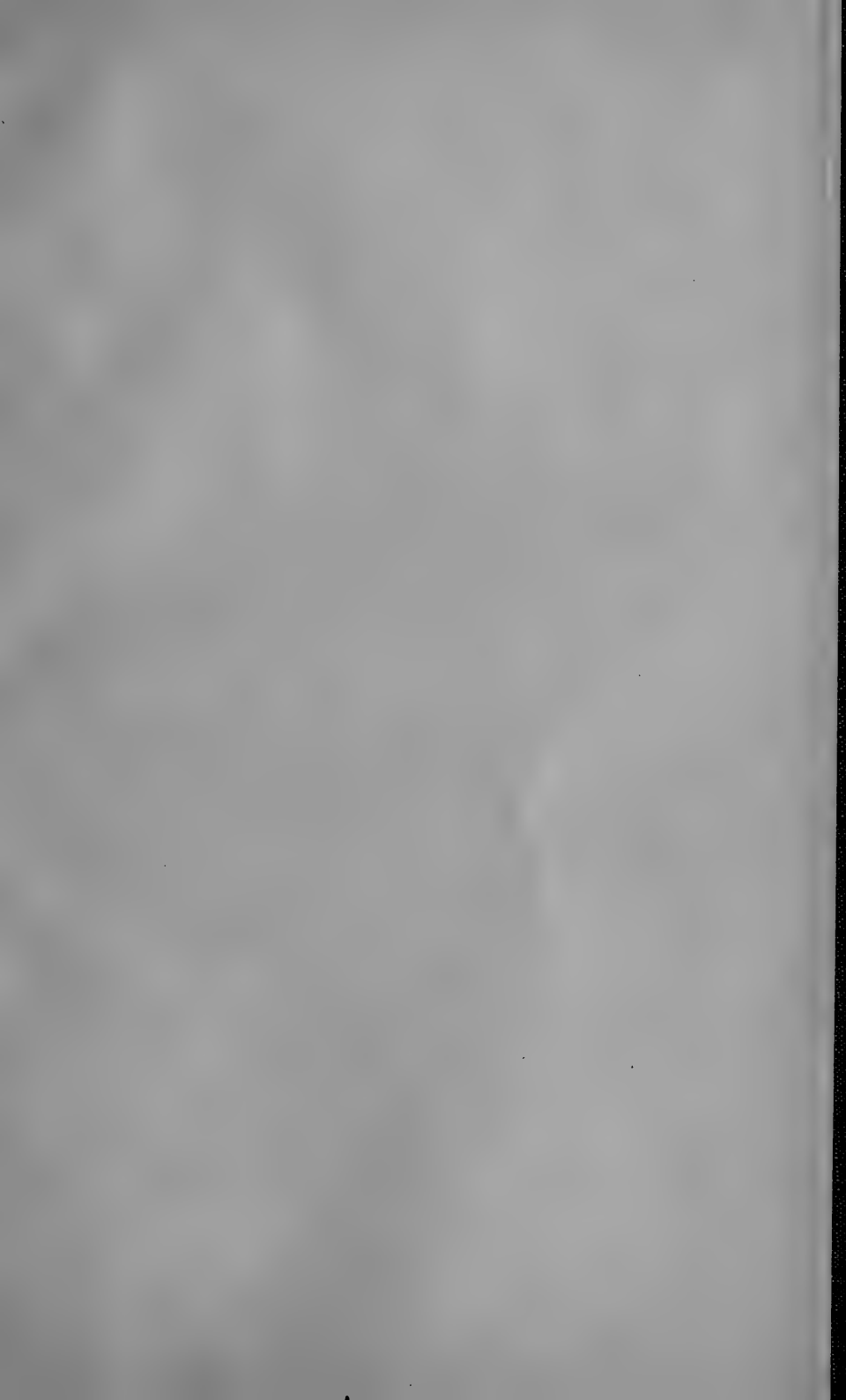
The seed offered for sale, has been tried since its arrival,* and is found to vegetate well; it is of the crop of 1839, and imported from France merely to diffuse its cultivation as soon and extensively throughout the country as possible. The low price and the trouble that is taken to sell it in small quantities, will show that profit has not been the motive for engaging in this business.

Every prudent farmer who desires to have his stock kept in good order, and at little expense, should plant an acre or two of Sugar Beet; so far as seed is concerned the expense will be one and a half dollars the acre. Along with the Sugar Beet, a small parcel of Mangel Worzel has been imported and is for sale at the same place. The Beet and Mangel Worzel will be sold at fifty cents a pound in quantities of ten or more pounds, and at somewhat higher price in smaller quantities.

JAMES RONALDSON,
No. 200 South Ninth Street, Philadelphia.

January 1, 1840.

* Two flower-pots were employed; 20 burrs planted in each; and 19 in each pot sprouted, producing from one to four plants each; this is a failure of only 5 per cent. as respects each burr.









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